CALFED
BAY-DELTA
PROGRAM

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June 23, 1999

Honorable Steve Peace, Chair
Joint Legislative Budget Committee
State Capitol, Room 3060
Sacramento, CA 95814

Dear Senator Peace:

CALFED Bay-Delta Program, DRAFT ECONOMIC COMPARISON

This letter is in response to direction in the *Supplemental Report of the 1998 Budget Act, Item 3860-001-0001—Department of Water Resources* for a draft economic comparison of a full range of potential strategies to increase water supply reliability for urban and agricultural water users. This request originated during deliberations on Fiscal Year 1998-99 budget appropriations for support of the CALFED Bay-Delta Program, which is being funded through the Department of Water Resources.

Supplemental Report request.

The *Supplemental Report of the 1998 Budget Act* indicates:

> "As part of the analysis prior to selection of a draft preferred alternative, the CALFED Bay-Delta Program shall prepare:
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> a. A draft economic comparison of a full range of potential strategies to increase water supply reliability for urban and agricultural water users. This analysis shall separately present and compare the potential costs and water supply reliability benefits of conjunctive use and groundwater programs, agricultural and urban water conservation programs, water recycling and reclamation, voluntary water transfers, the retirement of marginal or drainage-impaired agricultural lands, new surface storage facilities, and other potential programs as appropriate; and
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> b. A draft CALFED financing strategy for the components of the preferred alternatives. The strategy shall include estimated operations and maintenance and capital costs, and shall include alternatives for paying costs identifying

> which groups benefit, which are public goods for taxpayer contributions, and which benefit a particular community or class of users and should be paid by them, and would specifically require benefitting water users to bear the full cost of strategies to provide increased water supply, including, but not limited to, capital, interest, mitigation, and operations and maintenance costs."

This letter presents the draft economic comparison of potential strategies to increase water supply reliability for urban and agricultural water users. The enclosure with this letter displays the requested information in tables and graphs. The draft CALFED financing strategy is being forwarded as a separate letter.

Forthcoming CALFED Bay-Delta Program draft program plans and draft programmatic environmental impact statement/ environment impact report.

The CALFED agencies will soon release draft program plans and a draft programmatic environmental impact statement/environmental impact report for the CALFED Bay-Delta Program. These documents will identify a draft preferred alternative and will include more detailed descriptions of program actions to improve water supply reliability and to develop financing mechanisms for the program.

CALFED Bay-Delta Program water supply reliability goals.

As you know, state and federal agencies have been developing an integrated program -- the CALFED Bay-Delta Program -- to address several interrelated resource issues focused on the San Francisco Bay and Sacramento-San Joaquin Delta estuary. These resources issues have been grouped into four categories: ecosystem health, water quality control, levee system integrity, and water supply reliability.

For water supply reliability, CALFED has established three programmatic goals:

1) increasing the utility of available water supplies (making water suitable for more uses and reuses).

2) improving access to existing or new water supplies, in an economically efficient manner, for environmental, urban, and agricultural beneficial uses.

3) improving flexibility of managing water supply and demand in order to reduce conflicts between beneficial uses, improve access to water supplies, and decrease system vulnerability.

Water Management Strategy to achieve water supply reliability goals.

CALFED is developing an integrated Water Management Strategy to place program actions into a broader context. Through the development of this Water Management Strategy, CALFED is defining the three broad water management goals in more specific terms and describing how available water management activities ("tools") might be

integrated to meet those goals. The water management tools under discussion are water transfers, water conservation, wastewater recycling, watershed management, water quality control, diversion management in real-time mode, and water storage.

It is important to note that the CALFED Bay-Delta Program water management strategy will be a combination of various water management tools. No single water management tool will allow us to achieve all water supply reliability goals. Moreover, it is likely that several different combinations of water management tools will more or less satisfy CALFED water supply reliability goals, but these combinations will differ in level of implementation of the tools and in the degree to which water supply reliability goals are attained. We do not expect to discover one unique combination of tools, or a strategy, that provides simultaneous maximum achievement of all water supply reliability goals.

It is also important to note that development of an integrated water management strategy will include consideration of three major characteristics for all identified water management tools – flexibility (adaptability of water management tools to varying hydrologic conditions and management objectives), environmental effects, and economic impacts. Water management tools vary in these different characteristics, and the integrated water management strategy will analyze these variations.

Economic Evaluation of Water Management Alternatives.

To examine the potential economic impacts of various water management tools in a programmatic, broad-scope investigation, CALFED is conducting an Economic Evaluation of Water Management Alternatives (EEWMA). The EEWMA will help ensure that all identified water management tools are supportable on economic basis.

As an initial effort, we have analyzed several sets of water management tools (that is, several strategies) to provide better information for decision-making regarding water management. Many stakeholder groups have firm opinions on how best to go about achieving CALFED water supply reliability goals. These opinions sometimes find form as declarations about which water supply tools should be used or avoided and, for those that should be used, the level of that use. The EEWMA will provide information on the feasibility and costs of applying various constraints to the water management strategy. We believe that evaluating these various strategies will provide more focus to the discussion about water management and methods to achieve CALFED water supply reliability goals.

As part of the evaluation, we have gathered two basic sets of data – water supply data (that is, cost and quantity of water supplies that may be available through use of the various water management tools) and water demand data (quantity of water that would be demanded – in the economics sense – at various price levels). The effects of water management tools vary in large part on where in the state the measure is implemented. Therefore, we are organizing supply and demand information by region.

On a broad policy level, we have assisted representatives of stakeholder groups state their preferences regarding implementation of water management tools in quantifiable terms, so that we can use these preferences in our evaluation.

After the policy preferences were quantified, we used computer-based analytic methods to compare supply and demand under each set of preferences. We presented output data in charts that display supply and demand functions for each of the five demand regions, by stakeholder preference sets. Accompanying each chart is a table detailing the particular water supply options, including price and quantity adjustments at the destination. Stakeholder representatives now have an opportunity to examine these results to determine if changes in preference sets are warranted.

Following this examination and possible modification to preference sets, the next effort will be our *Hydrologic-Economic Impact Modeling* effort. Here, we will link several hydrologic and economic models together to evaluate the benefits and impacts of alternative water management scenarios. As this model development proceeds over the next few months, we will be able to evaluate alternative water management strategies in more detail. Additional information -- beyond water supply and demand information -- will include assessments of groundwater impacts, Delta conveyance constraints, and regional economic impacts of alternative water management strategies.

Preliminary information regarding costs and water supplies available from the various water management tools is presented in the enclosure. The tables and graphs enclosed with this letter display information for the preference set that would place no constraints on development of water management tools and would provide no subsidies for water use. The enclosure contains additional descriptive material to aid in interpreting the tables and graphs. CALFED staff will continue to refine these analyses over the coming months.

Please call me at (916) 657-2666 if you have questions on this material.

Sincerely,

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Executive Director

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G-003435